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10/580,063

01/09/2007

Michael Hopkinson

703-46

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86344

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05/11/2010

Syngenta Crop Protection, Inc.,
Patent and Trademark Department
410 Swing Road
Greensboro, NC 27409

EXAMINER

BROWN, COURTNEY A

ART UNIT

PAPER NUMBER

1616

MAIL DATE

DELIVERY MODE

05/11/2010

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/580,063

Applicant(s)

HOPKINSON ET AL.

Examiner

COURTNEY BROWN

Art Unit

1616

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 January 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-32 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 and 15-29 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SI.08)
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date: _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____
- Paper No(s)/Mail Date: _____

DETAILED ACTION

This action is in response to Applicant's Appeal Brief filed January 19, 2010. In view of applicant's remarks regarding Koltzenburg et al. (US Patent Application 2007/0122436) (see page 12) and the application of new art, **the finality of the Office Action of May 17, 2009 is hereby withdrawn.**

Status of Claims

Claims 1-32 are pending in the application. Claims 12-14 and 30-32 have been withdrawn as being directed to a non-elected invention. Claims **1-11 and 15-29** are being examined for patentability.

Rejections not reiterated from the previous Office Action are hereby withdrawn. The following rejections and/or objections are either reiterated or newly applied. They constitute the complete set of rejections and/or objections presently being applied to the instant application.

Withdrawn Rejections

Applicant's arguments, see pages 1-23, filed January 19, 2010, with respect to the rejection(s) of claims 1,2,8-11,15,16, and 19-29 under 35 U.S.C. 103(a) as being unpatentable over Hacker et al. (US 2003/0186816 A1) in view of Koltzenburg et al. (US 2007/0122436 A1) have been fully considered and are persuasive. Therefore, the

rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is set forth below.

The rejection of claims 1-11, 15, and 19-29 under 35 U.S.C. 103(a) as being unpatentable over Hacker et al. (US 2003/0186816 A1) in view Nabors et al. (US 2005/0233907 A1) **is maintained**.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-11, 15, and 19-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hacker et al. (US 2003/0186816 A1) in view Nabors et al. (US 2005/0233907 A1).

Applicant's Invention

Applicant is claiming a suspension concentrate comprising a herbicidally effective amount of mesotrione, as well as agrochemically acceptable salts thereof, having an average particle size of less than 1 micron and a dispersing agent.

***Determination of the scope and the content of the prior art
(MPEP 2141.01)***

Hacker et al. teach herbicide combinations comprising active compounds such as mesotrione, glufosinate, glyphosate (abstract, claims 1, 8, 9, 11, 25, 27, and 29 of instant application), and benoxacor ([0087], claims 19, 22, and 23 of instant application) that can be formulated as a suspoemulsion ([0074], claims 15-29 of instant application). Hacker et al. teach the preparation of emulsifiable concentrates with the addition of one or more ionic or nonionic surfactants (emulsifiers) ([0150], claim 15 of instant application). Additionally, Hackett et al. teach that the active combinations can exist together with further agrochemically active compounds, additives, and/or customary formulation auxiliaries which are applied as a dilution with water ([0145], claims 10 and 28 of instant application).

***Ascertainment of the difference between the prior art and the claims
(MPEP 2141.02)***

The difference between the invention of the instant application and that of Hacker et al. is that the instant invention requires an acetamide herbicide component, specifically mixtures of metalachlor (S) and (R) isomers. For this reason, the teaching of Nabors et al. is joined. Nabors et al. teach novel synergistic compositions comprising acetamide herbicides such as mixtures of the (R) and (S) isomers of

metolachlor wherein the ratio of (S)-2-chloro-N-(2-ethyl-6-methylphenyl)-N-(2-methoxy-1-methylethyl)acetamide to (R)-2-chloro-N-(2-ethyl-6-methylphenyl)-N-(2-methoxy-1-methylethyl)acetamide is in the range of from 50-100% to 50-0%, preferably 70-100% to 30-0% and more preferably 80-100% to 20-0% for the selective control of weeds ([0010], claims 19-21 of instant application). Nabors et al. teach the use of co-herbicides such as mesotrione, glyphosate, and glufosinate ([0020], claims 1,6,7,9,15,25,27, and 28 of instant application) and formulating the synergistic composition into a suspoemulsion ([0036], claims 15-29 of instant application).

Finding of prima facie obviousness

Rationale and Motivation (MPEP 2142-2143)

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings of the two cited references to arrive at a suspoemulsion pesticidal formulation that has an acetamide herbicide component. Both references teach the use of active compounds mesitrione, glyphosate, and glufosinate and the possibility of suspoemulsion formulations. One would have been motivated to make this combination in order to receive the expected benefit of having a pesticidal composition that is able to control the majority of weeds occurring in crops of cultivated plants due to the selectivity of acetamide herbicides. "It would be prima facie obvious to combine two methods each of which is taught by the prior art to be useful for the same purpose in order to form a resultant method that is to be used for the very

same purpose; the idea of combining them flows logically from their having been individually taught in prior art." In re Kerkhoven, 205 USPQ 1069 (C.C.P.A. 1980).

Response to Arguments

Applicant's arguments, filed January 19, 2010, with respect to the 103 rejection of claims 1, 6- 11, 15, 17 and 18 under 35 U.S.C § 103(a) as being obvious over Hacker et al. (US 2003/0186816 A1) in view of Comes (US 6,924,250) have been considered but are not persuasive. Applicant argues that in the absence of the teaching of the presently claimed invention, the artisan of ordinary skill would not consider the present claims to be prima facie obvious over Hacker in view of Nabors. Applicant argues that it is only with the benefit of hindsight of the present invention that the Examiner infers one of ordinary skill would consider combining submicron mesotrione and acetamide herbicides in the manner specified by the present claims. However, the Examiner disagrees with Applicant's arguments. In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

In light of the forgoing discussion, the Examiner concludes that the subject matter defined by the instant claims would have been obvious within the meaning of 35 USC 103(a).

The rejection of claims 1, 6-11, 15,17, and 18 under 35 U.S.C. 103(a) as being unpatentable over Hacker et al. (US 2003/0186816 A1) in view of Cornes (US 6,924,250) **is maintained**.

Applicant's Invention

Applicant is claiming a suspension concentrate comprising a herbicidally effective amount of mesotrione, as well as agrochemically acceptable salts thereof, having an average particle size of less than 1 micron and a dispersing agent.

Determination of the scope and the content of the prior art (MPEP 2141.01)

Hacker et al. teach herbicide combinations comprising active compounds such as mesotrione, glufosinate, glyphosate (abstract, claims 1, 8, 9,11,25,27, and 29 of instant application), and benoxacor ([0087], claims 19, 22, and 23 of instant application) that can be formulated as a suspoemulsion ([0074], claims 15-29 of instant application). Hacker et al. teach the preparation of emulsifiable concentrates with the addition of one or more ionic or nonionic surfactants (emulsifiers) ([0150], claim 15 of instant application). Additionally, Hacket et al. teach that the active combinations can exist together with further agrochemically active compounds, additives, and/or customary

formulation auxiliaries which are applied as a dilution with water ([0145], claims 10 and 28 of instant application).

***Ascertainment of the difference between the prior art and the claims
(MPEP 2141.02)***

The difference between the invention of the instant application and that of Hacker et al. is that the instant invention requires that the mesotrione component is in the form of a metal chelate. For this reason, the teaching of Comes is joined. Comes teach synergistic herbicidal compositions comprising mesotrione and a second herbicide selected from triazines (abstract, claims 1,6, 7, and 15 of instant application). Comes teach that the mesotrione component can be used in the form of a copper chelate (column 2, lines 12-16, claims 17 and 18 of instant application). Comes also teach the use of an additional herbicide such as glyphosate (column 3, lines 60-65, claim 9 of instant application) and the use of emulsifying agents for the formulation of emulsifiable concentrates (column 4, lines 35-45, claim 15 of instant application).

Finding of prima facie obviousness

Rationale and Motivation (MPEP 2142-2143)

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings of the two cited references to arrive at a suspoemulsion pesticidal formulation that has a mesitrione component in the form of a metal chelate. Both references teach the use of mesitrione and glyphosate in a herbicidal composition. One would have been motivated to make this combination in order to receive the expected benefit of having metal chelates of mesitrione which are chemically stable for long periods of time under normal as well as extreme temperature conditions (see abstract of US Patent 5,912,207). "It would be prima facie obvious to combine two methods each of which is taught by the prior art to be useful for the same purpose in order to form a resultant method that is to be used for the very same purpose; the idea of combining them flows logically from their having been individually taught in prior art." In re Kerkhoven, 205 USPQ 1069 (C.C.P.A. 1980).

Response to Arguments

Applicant's arguments, filed January 19, 2010, with respect to the 103 rejection of claims 1, 6- 11, 15, 17 and 18 under 35 U.S.C § 103(a) as being obvious over Hacker et al. (US 2003/0186816 A1) in view of Comes (US 6,924,250) have been considered but are not persuasive. Applicant argues that in the absence of the teaching of the presently claimed invention, the artisan of ordinary skill would not consider the present claims to be prima facie obvious over Hacker in view of Comes. Applicant argues that it is only with the benefit of hindsight of the present invention that the Examiner infers

one of ordinary skill would consider utilizing submicron mesotrione as a chelate in the manner specified by the present claims. However, the Examiner disagrees with Applicant's argument. In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

Applicant also argues that the Examiner does not appear to appreciate that upon dilution of certain SC or SE formulations, the suspended particles will settle with time under gravity to the bottom of a container. Applicant argues that the rate of sedimentation depends on a number of factors such as particle size, particle concentration, viscosity of the suspending medium and the specific gravity difference between the particles and the suspending medium and once settled, the sediments may become hard packed, making redispersion or resuspension extremely difficult. However, the Examiner disagrees with Applicant's argument because the features upon which applicant relies (i.e., the rate of sedimentation) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

In light of the forgoing discussion, the Examiner concludes that the subject matter defined by the instant claims would have been obvious within the meaning of 35 USC 103(a).

New Rejection(s)

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation

under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1,2,8-11,15,16, and 19-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hacker et al. (US 2003/0186816 A1, previously cited in the Office Action of June 5, 2008) in view of Hopkinson et al. (US Patent 6,746,988 B2).

Applicant's Invention

Applicant is claiming a suspension concentrate comprising a herbicidally effective amount of mesotrione, as well as agrochemically acceptable salts thereof, having an average particle size of less than 1 micron and a dispersing agent.

***Determination of the scope and the content of the prior art
(MPEP 2141.01)***

The teachings of Hacker et al. are incorporated herein by reference and are therefore applied in the instant rejection as discussed above.

***Ascertainment of the difference between the prior art and the claims
(MPEP 2141.02)***

The difference between the invention of the instant application and that of Hacker et al. is that the instant invention requires that the mesitrione component has an average particle size of less than 1 micron. For this reason, the teaching of Hopkinson et al. is joined. Hopkinson et al. teach the use of mesotrione as exemplary herbicides (column 8, lines 37-59) with an average particle size of about 1 to about 20 microns, preferably about 1 to about 15 microns, more preferably about 2 to about 10 microns (see column 10, lines 10-32).

***Finding of prima facie obviousness
Rationale and Motivation (MPEP 2142-2143)***

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings of the two cited references to arrive at a pesticidal composition having an active component has an average particle size of less than 1 micron. Hopkinson et al. teach that if a water-insoluble or oil-insoluble solid agriculturally active compound is present, milling a slurry of the agriculturally active compound, water, defoamer, and all or a portion of the water soluble surfactants may be indicated to achieve a desired particle size (column 10, lines 9-32). One would have been motivated to make this combination in order to receive the expected benefit of increasing the solubility, dispersibility, and bioavailability of the active compound

particles due to reducing the particle size. Further, both references teach the use of mesotrione in agrochemical formulations. Thus, "It would be *prima facie* obvious to combine two methods each of which is taught by the prior art to be useful for the same purpose in order to form a resultant method that is to be used for the very same purpose; the idea of combining them flows logically from their having been individually taught in prior art." In re Kerkhoven, 205 USPQ 1069 (C.C.P.A. 1980).

In light of the forgoing discussion, the Examiner concludes that the subject matter defined by the instant claims would have been obvious within the meaning of 35 USC 103(a).

From the teachings of the references, it is apparent that one of ordinary skill in the art would have had a reasonable expectation of success in producing the claimed invention. Therefore, the invention as a whole was *prima facie* obvious to one of ordinary skill in the art at the time the invention was made, as evidenced by the references, especially in the absence of evidence to the contrary.

Examiner's Response to Applicant's Remarks

Applicant's arguments, filed November 4, 2008, with respect to the 103 rejection of claims 1,2,8-11,15,16, and 19-29 as being unpatentable over Hacker et al. (US 2003/0186816 A1) in view of Koltzenburg et al. (US 2007/0122436 A1) have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

The claims remain rejected.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Courtney A. Brown whose telephone number is 571-270-3284. The examiner can normally be reached on 9:00 am-5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Johann Richter can be reached on 571-272-0646. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Courtney A. Brown
Patent Examiner
Technology Center1600
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/Johann R. Richter/
Supervisory Patent Examiner, Art Unit 1616